

BROOKHAVEN NATIONAL LABORATORY  
ASSOCIATED UNIVERSITIES, INC.

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REFER:

DEPARTMENT OF  
BIOLOGY

January 5, 1955

Dr. Joshua Lederberg  
Professor of Genetics  
University of Wisconsin  
Madison 6, Wisconsin

Dear Professor Lederberg:

I believe there has been a successful demonstration of intrinsic mutagenesis by decay of  $S^{35}$  to  $Cl^{35}$  in Neurospora as demonstrated by F. P. Hungate and T. J. Mannell (Genetics 37 ('52) 709-19). I do have some reservations about this work. In particular, I wonder how the total S content per unit wet weight of organism varied with the S content per unit wet weight of medium in these experiments. Depending upon the amount by which the mold concentrates sulfur the amount of radiation received by the mold would be expected to vary. Spores isolated from media containing different amounts of carrier sulfate gave similar counts indicating that the S content of conidia could be increased as much as thirty fold. It would be interesting for dosage calculations to find out how the  $S^{35}$  was distributed in such high S conidia. Certainly not all S-containing organelles showed 30 fold sulfur increments. I do not believe, however, that nonhomogeneity in the dose from the internal  $S^{35}$  will turn out to be of sufficient magnitude to invalidate Hungate and Mannell's conclusions.

Sincerely yours,

*Robert C. King*

Robert C. King

RCK/jms